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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Broderick

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ROSSI, KIMMS & McDOWELL LLP.  
20609 Gordon Park Square, Suite 150  
Ashburn, VA 20147

EXAMINER

MCCALISTER, WILLIAM M

ART UNIT

PAPER NUMBER

3753

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,903	<b>Applicant(s)</b> BRODERICK, MICHAEL	
	<b>Examiner</b> WILLIAM MCCALISTER	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-22 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) 30-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-22, 24-29 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/10/2009 has been entered.

Claims 1-18 and 23 are cancelled. Claims 30-37 have been withdrawn. Claims 19-22, 24-29 and 38 are pending for immediate consideration.

### ***Specification***

2. The amendment filed 7/29/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: that Applicant's valve is primarily maintained in the closed disposition by exposure to the steam pressure, as required of all independent claims.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 19, 29 and 38 recite the limitation "the release of steam" in lines 3-4.

There are insufficient antecedent bases for these limitations in the claims.

5. Claim 21 recites the limitation "the side to which the pressure of the steam is applied" and "the pressure of the steam". There is insufficient antecedent basis for this limitation in the claim.

6. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Is claim 27 meant to introduce "an open disposition" that is distinct from the open disposition introduced in claim 19?

7. Claims 28 and 38 recite the limitations "the nominal flange size" (twice), "the valve body", "the steam exit side" and "the steam entry side". There are insufficient antecedent bases for these limitations in the claims. Further, are these the sizes of the "input flow flange" and the "discharge flow flange" that are previously introduced, or do they introduce new flange sizes "of the valve body"?

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 19-22, 24-29 and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

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matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the disclosure as originally filed that Applicant's valve is primarily maintained in the closed disposition by exposure to the steam pressure, as required of all independent claims.

***Claim Rejections - 35 USC § 102***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 19-21, 27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US 4,014,510).

Regarding claims 19, 20 and 29, Smith discloses a valve comprising:

- a pressure vessel (77);

- an input flow flange (77);

- a discharge flow flange (67);

- a displaceable closure member (56) which seals the discharge flow flange to prevent the release of pressurized fluid in its closed disposition, and is primarily maintained in said closed disposition by exposure to the fluid pressure within the pressure vessel such that in a charged condition of the pressure vessel, the pressure of the fluid within the pressure vessel is active to hold the valve in said closed disposition (see col. 3 lines 16-26),

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the closure member being displaceable from said closed disposition to an open disposition against the fluid pressure within the pressure vessel for release of pressurized fluid from the pressure vessel (col. 2 line 68 to col. 7 line 3), and

wherein the valve is mounted for release of pressurized fluid into an expansion region (13, 55) substantially at the point of entry of pressurized fluid therein (as expansion of a pressurized gas would occur in this region after passing through the opening created at the interface of the valve member and valve seat).

It is noted that the recital of steam is directed to an operating media of the claimed valve, and therefore does not structurally define the claimed valve. As such, this recitation is met in that Smith's valve is capable of controlling the flow any fluid, including steam, just as the valve is capable of controlling the flow of water.

Regarding claim 21, Smith discloses the closure member to be displaceable between said closed disposition and an open disposition by a double-acting actuator (37), wherein the double-acting actuator includes a drive piston (37) and a spindle (25, 57) that is connected to the drive piston and to the closure member, and wherein the spindle is connected to a side of the closure member that faces the inside of the pressure vessel and is the side to which the pressure of the fluid is applied (via weld 58).

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Regarding claim 27, Smith discloses the closure member to be mounted for (i.e. – capable of) substantially vertical displacement between said closed disposition and an open disposition thereof.

12. Claims 19-21, 27 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Perkins (US 4,044,834).

Regarding claims 19, 20 and 29, Perkins discloses a valve (the embodiment of FIG 6) comprising:

- a pressure vessel (113');

- an input flow flange (that portion of the valve body which defines the inlet to the pressure vessel);

- a discharge flow flange (that portion of the valve body which defines the outlet from the pressure vessel);

- a displaceable closure member (148') which seals the discharge flow flange to prevent the release of pressurized fluid in its closed disposition, and is primarily maintained in said closed disposition by exposure to the fluid pressure within the pressure vessel such that in a charged condition of the pressure vessel, the pressure of the fluid within the pressure vessel is active to hold the valve in said closed disposition (by virtue of the pressure acting on face 150'),

- the closure member being displaceable from said closed disposition to an open disposition against the fluid pressure within the pressure vessel for release of pressurized fluid from the pressure vessel (col. 2 line 68 to col. 7 line 3), and

wherein the valve is mounted for release of pressurized fluid into an expansion region (13, 55) substantially at the point of entry of pressurized fluid therein(as expansion of a pressurized gas would occur in this region after passing through the opening created at the interface of the valve member and valve seat).

It is noted that the recital of steam is directed to an operating media of the claimed valve, and therefore does not structurally define the claimed valve. As such, this recitation is met in that Perkins' valve is capable of controlling the flow any fluid, including steam, just as the valve is capable of controlling the flow of fluids from a well bore.

Regarding claim 21, Perkins discloses the closure member to be displaceable between said closed disposition and an open disposition by a double-acting actuator (114'), wherein the double-acting actuator includes a drive piston (126') and a spindle (128') that is connected to the drive piston and to the closure member, and wherein the spindle is connected to a side of the closure member that faces the inside of the pressure vessel and is the side to which the pressure of the fluid is applied (see FIG 6).

Regarding claim 27, Perkins discloses the closure member to be mounted for (i.e. – capable of) substantially vertical displacement between said closed disposition and an open disposition thereof.



***Claim Rejections - 35 USC § 103***

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claims 22, 27, 28 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith.

Regarding claim 22, Smith discloses a double-acting piston/cylinder (37/11) that is actuated by a hydraulic fluid. However, hydraulic and pneumatic (air-driven) fluids were recognized in the art as functional equivalents for the purpose of actuating pistons, and it would have been obvious at the time of invention to utilize pneumatic rather than hydraulic fluid to actuate Smith's piston, for instance to decrease the risk of environmental contamination.

Regarding claim 27, Smith's valve would be capable of operating in an orientation such that displacement of the closure member occurs vertically, and it would have been obvious to one of ordinary skill in the art at the time of invention to mount the valve in such a manner for instance where the orientation of the supply and relief conduits of the system to which it is to be connected require as much.

Regarding claims 28 and 38 as understood, Smith discloses the invention as claimed (see the analyses under paragraph 11 above), with exception to the nominal flange

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sizes. However, at the time the invention was made, it would have been an obvious to a person of ordinary skill in the art to utilize a larger flange size at the exit side of the body than at the inlet side of the body, where, for instance, pipe size considerations of the system in which the valve is to be used require as much. (It is noted that this rejection takes the claims at face value; i.e. since these recitations do not depend for antecedent basis from the flanges already introduced, they are different flanges.)

15. Claims 22, 27, 28 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins.

Regarding claim 22, Perkins discloses a double-acting piston/cylinder (126', and the cylinder in which it acts) that is actuated by a hydraulic fluid. However, hydraulic and pneumatic (air-driven) fluids were recognized in the art as functional equivalents for the purpose of actuating pistons, and it would have been obvious at the time of invention to utilize pneumatic rather than hydraulic fluid to actuate Smith's piston, for instance to decrease the risk of environmental contamination.

Regarding claim 27, Perkins valve would be capable of operating in an orientation such that displacement of the closure member occurs vertically, and it would have been obvious to one of ordinary skill in the art at the time of invention to mount the valve in such a manner for instance where the orientation of the supply and relief conduits of the system to which it is to be connected require as much.

Regarding claims 28 and 38 as understood, Smith discloses the invention as claimed (see the analyses under paragraph 12 above), with exception to the nominal flange sizes. However, at the time the invention was made, it would have been an obvious to a person of ordinary skill in the art to utilize a larger flange size at the exit side of the body than at the inlet side of the body, where, for instance, pipe size considerations of the system in which the valve is to be used require as much.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Weaver (US 6,302,136).

Smith discloses the invention as claimed with exception to an explicit recitation of metal-to-metal contact of the valve member and seat. However, Weaver teaches that it was known in the art at the time of invention to employ a metal-to-metal interface of a valve member and seat without a sealing element in a valve for handling steam (see abstract). To use Smith's valve to control the flow of steam, it would have been obvious to one of ordinary skill in the art at the time of invention to mount the valve member for substantially metal-to-metal contact with a valve seat portion, as taught by Weaver.

17. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Weaver.

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Perkins discloses the invention as claimed with exception to an explicit recitation of metal-to-metal contact of the valve member and seat. However, Weaver teaches that it was known in the art at the time of invention to employ a metal-to-metal interface of a valve member and seat without a sealing element in a valve for handling steam (see abstract). To use Perkins' valve to control the flow of steam, it would have been obvious to one of ordinary skill in the art at the time of invention to mount the valve member for substantially metal-to-metal contact with a valve seat portion, as taught by Weaver.

18. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Tartaglia (US 5,078,177).

Smith discloses the invention as claimed, including a face portion of the valve member, but does not disclose the face portion to be interchangeably secured to the remainder of the closure member. Tartaglia teaches a similar valve wherein the face portion of the valve member is interchangeably secured to the remainder of the closure member (see column 3 lines 44-51). To obtain a longer operational life from Smith's valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve face therewith so that that the valve face can be replaced when worn.

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19. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Tartaglia (US 5,078,177).

Perkins discloses the invention as claimed, including a face portion of the valve member, but does not disclose the face portion to be interchangeably secured to the remainder of the closure member. However, Tartaglia teaches a similar valve wherein the face portion of the valve member is interchangeably secured to the remainder of the closure member (see column 3 lines 44-51). To obtain a longer operational life from Perkins' valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve face therewith so that that the valve face can be replaced when worn.

20. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Walker (US Patent 3,658,092).

Smith discloses the invention as claimed including a seat portion of a valve body. Smith does not disclose the seat portion to be interchangeably secured to the valve body portion in the seat region. Walker teaches a similar valve which uses interchangeable seat portions (see column 2 lines 62-64). To obtain a longer operational life from Smith's valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve seat therewith so that that the valve seat can be replaced when worn.

21. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Walker.

Perkins discloses the invention as claimed including a seat portion of a valve body. Perkins does not disclose the seat portion to be interchangeably secured to the valve body portion in the seat region. Walker teaches a similar valve which uses interchangeable seat portions (see column 2 lines 62-64). To obtain a longer operational life from Perkins' valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve seat therewith so that that the valve seat can be replaced when worn.

### ***Response to Arguments***

22. Applicant's arguments filed 3/10/2009 have been fully considered but they are not persuasive.

a. Applicant argues that because Smith's valve controls water, it does not meet the claimed limitations directed to steam. In response, the recital of steam is directed to an operating media of the claimed valve, and therefore does not structurally define the claimed valve. As such, this recitation is met in that Smith's valve is capable of controlling the flow any fluid, including steam, just as the valve is capable of controlling the flow of water.

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b. Applicant argues that the stem is not connected to the pressure side of the valve element. Examiner disagrees. Smith specifically discloses the stem to be welded to this side of the valve element.

c. Applicant argues that his flanges are of different sizes for a reason which is distinct from that proposed in the obviousness analyses of the rejection.

However, the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM MCCALISTER whose telephone number is (571)270-1869. The examiner can normally be reached on Monday through Friday, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM MCCALISTER/  
Examiner, Art Unit 3753

/Stephen M. Hepperle/  
Primary Examiner, Art Unit 3753

WM  
4/2/2009